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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|-------------------|
| 10/812,454 | 03/30/2004 | Koujiro Kameyama | 14225-046001 / F1040123US | 3138 |
| 26211 | 7590 | 08/11/2005 | EXAMINER | MONDT, JOHANNES P |
| FISH & RICHARDSON P.C. CITIGROUP CENTER 52ND FLOOR 153 EAST 53RD STREET NEW YORK, NY 10022-4611 | | | ART UNIT | PAPER NUMBER |
| | | | 2826 | |

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

S/P

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/812,454 | KAMEYAMA ET AL. | |
| | Examiner | Art Unit | |
| | Johannes P. Mondt | 2826 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 July 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
 - 4a) Of the above claim(s) 9-17 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 July 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1) Certified copies of the priority documents have been received.
 - 2) Certified copies of the priority documents have been received in Application No. _____.
 - 3) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/28/05.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the Group I invention (claims 1-8) in the reply filed on 7/28/05 is acknowledged.

Information Disclosure Statement

The examiner has considered the item listed in the Information Disclosure Statement (IDS) filed 7/28/05. A signed copy of Form PTO-1449 is herewith enclosed.

Priority

2. Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Japan on June 5, 2003, including explicit statement of a claim of foreign priority. However, the Oath appears to contradict the claim of foreign priority (see page 2 of Oath filed 7/6/04 ("Priority not claimed")). A new oath, declaration or application data sheet is required in the body of which the present application should be identified by application number and filing date.

Drawings

3. ***Figure 7*** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see [0018]). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. ***Claim 2*** is objected to because of the following informalities: the wording "back surface" (line 1) should be replaced by "back" (otherwise lacking antecedent basis). Appropriate correction is required.
5. ***Claim 2*** is objected to because of the following informalities: the wording "from the sealing resin" (line 3) should be replaced by: "to the sealing resin" (otherwise improper English). Appropriate correction is required.
6. ***Claim 8*** is objected to because of the following informalities: the wording "is covered" (line 2) should be replaced by: "are covered" (otherwise improper English). Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. ***Claims 1, 2, 4, 5 and 7*** are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al (Japanese Patent Publication with publication number 2000-173766; embodiment of Drawing 7). Yamada et al teach (see the embodiment defined by Drawing 7 and [0025]-[0077]) an optical semiconductor device (title and abstract), comprising: an optical semiconductor element 2/3/4/5/6 ([0025]) having a circuit portion

2/3/4 and front portion of 6 (loc.cit.) including any one of a light receiving element and a light-emitting element 5 (loc.cit.) on a surface thereof; a terminal portion (back portion of 6) (N.B.: 6 runs from the back to the front of said optical semiconductor element; cf. Drawing 7) which is provided on a back surface (upper surface in Drawing 7) of the optical semiconductor element and electrically connected with the circuit portion; a covering layer 1 ([0025]) which covers the surface of the optical semiconductor element and is made of a transparent material ([0025]); and a sealing resin 33 ([0064][0072]) which covers side surfaces of the optical semiconductor element (Drawing 7).

On claim 2: the back surface of the optical semiconductor element is covered with the sealing resin 33 ([0065]-[0072] and Drawing 7), and the terminal portion (back portion of 6) is exposed from (interpreted as: "to") the sealing resin (Drawing 7).

On claim 4: the circuit portion and the terminal portion are connected by a penetrating (counter) electrode 6 provided in the optical semiconductor element as electrode 6 runs from the back top the front (Drawing 7; see also [0025]).

On claim 5: the circuit portion 2/3/4 and front portion of 6 of the optical semiconductor element and the terminal portion (back portion of 6) are connected through a portion of 6 ([0025]) elongating along a side surface portion (Drawing 7) of the optical semiconductor element covered by the sealing resin 33 (Drawing 7 and [0064]-[0065]).

On claim 7: each of the side surfaces of the optical semiconductor element are inclined surfaces because said side surfaces form the interface of counter electrode 6

and sealing resin 33 while counter electrode 6 has an inclined portion deviating from the horizontal and vertical orientation.

9. **Claims 1, 3, 6 and 8** are rejected under 35 U.S.C. 102(b) as being anticipated by Badehi (US 2001/0018236 A1). Badehi teaches (see Figure 2A, title, abstract and [0038]-[0041]) an optical semiconductor device (title and abstract; microlens array 100), comprising: an optical semiconductor element 100 ([0039]) having a circuit portion 112 including any one of a light receiving element and a light-emitting element (microlens array 100 is light receiving element) on a surface thereof; a terminal portion 108 ([0039]) which is provided on a back surface (cf. Figure 2A) of the optical semiconductor element and electrically connected with the circuit portion; a covering layer 114/116 ([0040]) which covers the surface of the optical semiconductor element and is made of a transparent material ([0041] and [0051]-[0052]; N.B.: SU-8 is transparent; see, for instance Eldridge et al (US 2003/0099737 A1), not as prior art but only to ascertain fact); and a sealing resin 104/118 ([0039]-[0040]) which covers side surfaces of the optical semiconductor element (Figure 2A).

On claim 3: the back surface of the optical semiconductor element is covered with an insulating layer 106 ([0039]) and the terminal portion 108 is formed on a back of the insulating layer (Figure 2A).

On claim 6: a bump electrode 110 ([0039]) is formed on a back of the terminal portion.

On claim 8: side surfaces (side surfaces towards the outside, of 116) of the covering layer 114/116 are covered with the sealing resin 118 ([0039]-[0040]).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Yamada et al (6,833,668 B1) (family member of Yamada et al as cited overleaf); Maydanich et al (US 2002/0063218 A1) (see, for instance, [0015] – [0019] and Figure 2)..

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
August 7, 2005

Patent Examiner:



Johannes Mondt (Art Unit: 2826)